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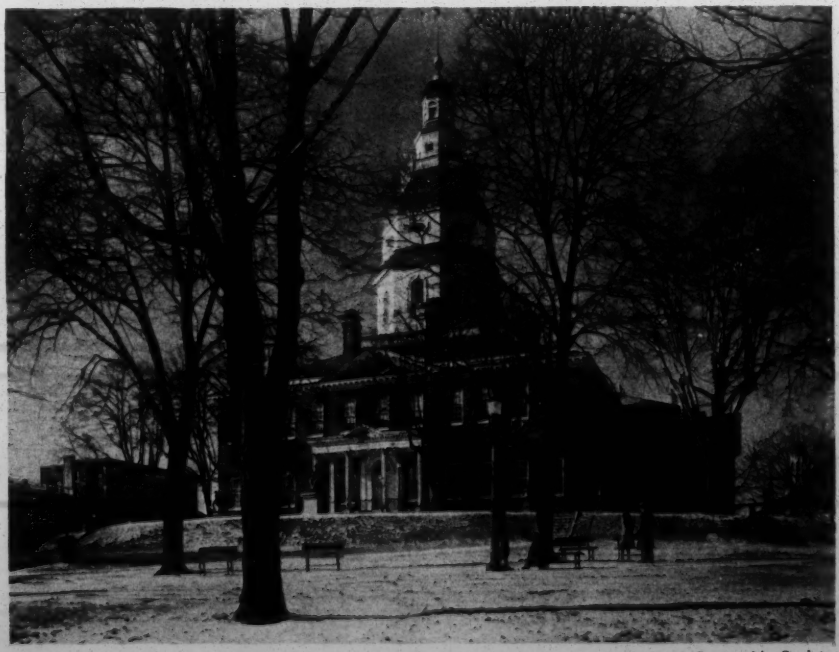

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A FORMER CAPITOL OF THE UNITED STATES

(see Bulletin No. 5)

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Cuba: Host to President Coolidge, Lindbergh and Pan American Conference

WHEN President Coolidge, Col. Charles A. Lindbergh and the Pan American Conference all are scheduled to meet at Havana, Cuba, it is timely to delve into the geography of the neighboring island nation.

This is the first time a President of the United States has visited Cuba while in office. President Coolidge's journey abroad has the recent parallels of President Harding's visit to Vancouver, President Wilson's trip to Europe and President Taft's meeting with President Diaz of Mexico at Juarez and trips by both President Taft and President Roosevelt to Panama.

"Few people appreciate either the dimensions or the area of Cuba," writes William J. Showalter in a communication to the National Geographic Society. "If you were to place the eastern tip of the island—Cape Maisi—flush with Barnegat Beach, New Jersey, on a map of the United States of like scale, Cape San Antonio, the western land's end, would touch the eastern border of Illinois, spanning the five States of New Jersey, Delaware, Pennsylvania, Ohio and Indiana.

Cuba Has Many Marvelous Harbors

"If those unfamiliar with the island are surprised at its length, a realization of its width, averaging only about 60 miles, likewise surprises. No place on the island is more than 40 miles from the open sea. In area it is a Pennsylvania, and it has a population numerically equivalent to that of Missouri.

"Nature and history have conspired to make Cuba a land of enchantment. One approaches the island through sapphire seas. Its north shore, to the west of Florida Straits, is washed by the Gulf of Mexico and that to the east by the Atlantic Ocean, while the south shore is laved by the beautiful waters of the Caribbean. Both shores are fringed with myriad islands—idyllic spots.

"No other land in the New World possesses proportionately such numerous and wonderful bays. Most of them are distinguished for their bottlenecked entrances, vast areas of water being entirely surrounded by land, except for narrow channels to the sea, through which ships gain access to matchless harbors.

Innumerable Avenues of Royal Palms

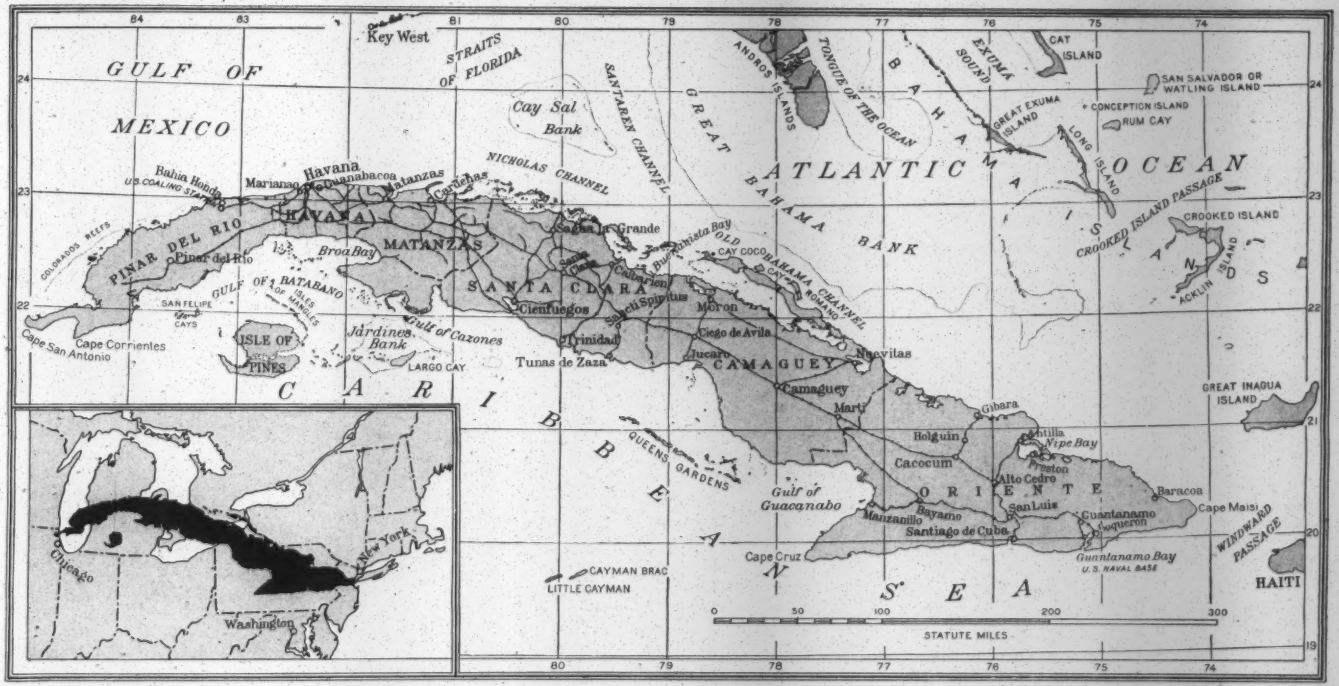
"An example of these splendid sheltered harbors is Nipe Bay, on the northeastern coast. It is said to be the third largest harbor in the world. The storm-tossed ships of every sea might find peaceful anchorage there, with room to spare; and yet the entrance is so narrow that, once inside, one seems on a lake rather than in a bay.

"The scenery of Cuba is as varied as heart could wish, and as the visitor journeys the length of the island, scenes of unrivaled beauty greet the eye—the low country is begemmed with valleys where innumerable avenues of royal palms wave their crowns of spreading fronds and lend enchantment to the landscape.

"Almost every person who visits Cuba on pleasure bent lands in Havana, and comparatively few get more than 20 miles away from that city's central park.

Havana, the New York of Cuba, Only More So

"If New York, Chicago, Philadelphia, Boston, and Washington were consolidated, the resulting metropolis would bear about the same relation to the United



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A MAP OF CUBA AND THE NEIGHBORING BAHAMA ISLANDS

The small inset shows the length of the island, comparable to the distance between New York and Chicago. In width it averages only sixty miles, and no place on the island is more than forty miles from the open sea. Among its chief commercial assets are its numerous excellent harbors. In area Cuba is equal to Pennsylvania; it has as many inhabitants as Missouri (see Bulletin No. 1).

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Girl's Plans Win in Contest for New Shakespeare Theater at Stratford

A LONDON girl won in the competition among architects for a design suitable for a new Shakespeare memorial theater at Shakespeare's home town, Stratford-on-Avon.

The original memorial theater, built in 1877, was destroyed by fire a few years ago. American subscriptions have helped to make possible the building of a new theater especially designed for the presentation of Shakespearean plays.

Stratford-on-Avon was a market town of great antiquity when Shakespeare was born there in 1564. From the large number of Roman coins dug up in the vicinity the "ford" is thought to have marked a station on a Roman road across Britain. Thus the spot probably was a trading center during the Roman occupation of England, following the famous visit of Julius Caesar in 55 B. C.

Stratford Pupils Study in Same School Attended by Shakespeare

Stratford was mentioned in "Domesday Book," from which William the Conqueror figured his tax levies in the eleventh century. At that time it was one of the manors of the Bishop of Worcester, who had the right of a mill on the Avon which brought a rent of ten shillings a year or 1,000 eels. The city's famous Thursday market dates from the reign of Richard the Lion-Hearted.

Guild Hall, in which was located the grammar school where Shakespeare learned his "little Latin and less Greek" was built in the fifteenth century, and in it Stratford youths still receive their early education. The visitor who arises early may see them with satchels on their backs and "shining morning faces, creeping like snails unwillingly to school." They may even be seen imbibing their own Latin and Greek, if the visitor peeps through a little window in order not to disturb the classes; 65,000 visitors a year would disrupt any classroom!

Stratford Church, which Shakespeare attended and in which he, his wife and family were buried, was begun during the last two decades of the thirteenth century. The building, however, has been altered on many occasions. Its slender spire, which is now the most characteristic feature, was not added until the eighteenth century, long after the poet's death. An unusual sense of continuity with the past is given by the fact that the same church and school which molded Shakespeare's youth are still open to the use of the good people of Stratford, to-day a prosperous town of some ten thousand people.

Destroyed Shakespeare's Manor to Spite Tourists

The house in which Shakespeare is thought to have been born, and the country cottage where tradition says he courted Anne Hathaway, are half-timbered Elizabethan buildings with a delightful air of antiquity, set in charming gardens. Their authenticity has been established to the satisfaction of scholars, but even if this were not fairly certain, their spirit and atmosphere are truly of the spacious days of Elizabeth.

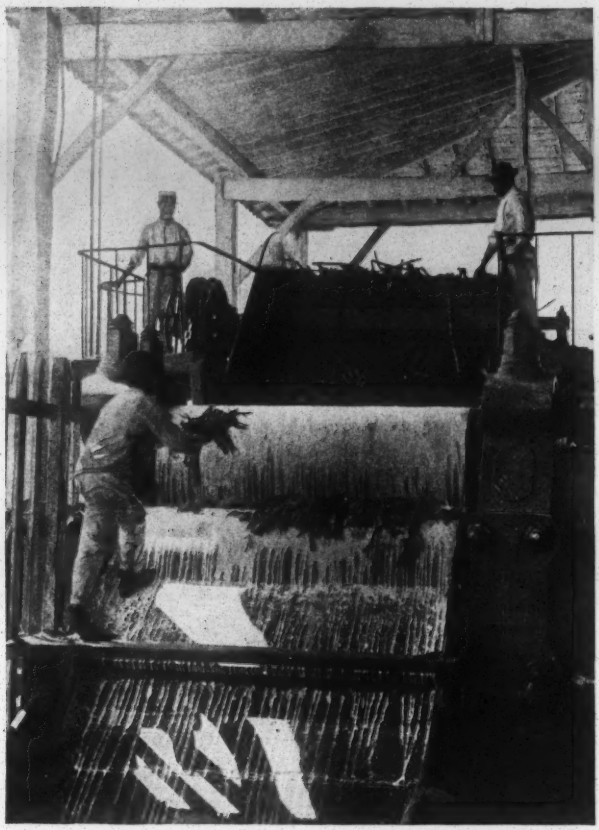
Unfortunately, New Place, the great house which Shakespeare purchased when he returned to Stratford from London in the days of his prosperity, is no longer standing. It is said to have been purposely destroyed by a later owner, a testy vicar, who was annoyed at so many visitors. The same gentleman cut down

States that Havana bears to Cuba. Its closest rival is Camaguey, but that city has only one-fifth as many people.

"All of the big business houses in Cuba have their headquarters in Havana, and some of the banks have built skyscraper homes. As half the country's urban population is centered in Havana, so also is half of its shipping.

"Most of Cuba's wealthiest families have Havana homes. During war years, the net profits of the sugar business probably exceeded the gross returns of any other four-year period in the history of the island. The result was that Havana became a city with a large, wealthy population. Tens of thousands of acres of land were laid out in residence sites, and the Vedado district, the Riverside Drive of Havana, is being extended until it reaches farther from the Prado than Riverside Drive from New York's City Hall Square."

Bulletin No. 1, January 30, 1928.



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CRUSHING SUGAR CANE IN A CUBAN MILL

Cuba's prosperity is founded on her sugar and tobacco industries. An illustrated exposition of these two industries is contained in "Cuba —the Sugar Mill of the Antilles," National Geographic Magazine, July, 1920.

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Hues of 1928 Automobiles Are Products of Corn, Cotton and Coal Tar

AUTOMOBILE manufacturers have used striking colors on their 1928 models to attract prospective purchasers who throng through the aisles of automobile shows this winter season.*

How many visitors to the shows know that corn and cotton and coal tar derivatives have fixed those shiny bright colors on the cars?

New lacquers for automobiles and furniture rely on two children of war, nitrocellulose and butyl alcohol. Nitrocellulose, made from cotton for high explosives, soon developed familiar peacetime articles—combs, buttons, movie films—and, since the war, has been adapted to paint. Ten years ago, the middle west manufactured another war necessity from corn. Fermenting corn mash produced acetone for explosives, with butyl alcohol as a by-product. Chemists found the alcohol a good solvent for a new flowing cellulose. Moreover, the solution would carry sufficient pigment and resin to make an automobile paint capable of withstanding sun rays, heat, cold, water, ice, sand, soap, weak acid, weak alcohol, oil and tar. From that moment, butyl alcohol from corn became a major product and acetone a by-product.

Walking on a Magnified Coat of Paint

An ancient art, painting, has become a science. The Cromagnons who drew animal pictures on walls of Spanish caves, perhaps 25,000 years ago, were the first of a long line of artists and house painters. Yet not until the last twenty-five years have chemists and physicists investigated paint scientifically. In this brief period they have compounded far more lasting paints; paints that will reflect more heat; paints that will banish barnacles; paints that have reduced the drying problem from days to seconds; paints that will reduce gasoline storage evaporation; synthetic materials to substitute for fast disappearing raw supplies, and non-poisonous substitutes for poisonous paints.

The first problem was to know what paint was. Imagine a coating of red house paint magnified to the thickness of a modern sidewalk. Let us walk on it. The surface is elastic to the tread and transparent, for beneath it we see millions of red pebbles set in the hard, rubbery linseed oil cement. To prepare the paint linseed oil was mixed with red iron oxide and turpentine from southern pines. Once laid on, the turpentine rose from the paint like evaporating water from a mud flat and the linseed oil stiffened. In the case of modern lacquers the pigment is found in stiffened cellulose instead of stiffened linseed oil.

Barn Covered by Red "Coat of Mail"

The red pebbles of a house paint are truly a metal. When we paint we throw over an object a protective "coat of mail" bound in semi-elastic cement—a red barn has a metal covering of iron rust. If we return a few years later we find that weather has taken away the top layer linseed oil cement and that the red rust pebbles are falling away like gravel from a bank beside a stream.

For most of the "makings" of paint, America need not go beyond her borders:

*See also "The Automobile Industry," with 76 illustrations, National Geographic Magazine, Oct., 1923.

a giant mulberry tree planted by the poet's own hands. To New Place Shakespeare retired for his later years, and at his death it passed to his family, the last of whom was Lady Barnard, Shakespeare's grandchild. The house had been built in 1483 and stood until 1759.

Among other interesting buildings of Stratford is Harvard House, home of the family of the founder of Harvard University. This quaint structure has been restored and furnished in Elizabethan style and is now used as a club for visiting Harvard alumni. At the Red Horse Hotel, Washington Irving wrote his well-known description of Stratford-on-Avon; the little parlor is kept to-day exactly as he left it, fireside chair, poker, and all.

The Shakespeare Inn is an old-time hostelry with up-to-date comforts and a strange way of marking its bedrooms. Names of Shakespearean characters are painted on the doors instead of numbers, the traveler being assigned by mine host to spend his night in "Othello" or "Hamlet." It gives the uninitiated a start to hear an order for hot water to be sent to "Rosalind" and tea and toast to "King Lear." A quiet house on a quiet street was for many years the home of Miss Marie Corelli, the novelist, said to have been greatly admired by Queen Victoria.

Interest in Stratford as Shakespeare's town was not awakened in England until a century and a half after the poet's death. The city was made famous, as it were, by the actor, David Garrick, who promoted a Shakespearean jubilee which brought the world to its doors. A century later the memorial theater was built, which it is now planned to replace by a modern structure of suitable design.

Bulletin No. 2, January 30, 1928.

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THE FORMER SHAKESPEARE MEMORIAL THEATER AT STRATFORD

This theater, which was burned, was regarded by many people as unsatisfactory for the annual presentation of Shakespearean plays at Stratford-on-Avon. A London girl has won the contest for plans of a new memorial theater which will be erected on this site.

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Carrara Marks the Graves of American Dead in Europe

THIRTY-ONE thousand stone crosses from the marble mountains of Carrara, Italy, have been ordered by the United States Government to mark the graves in eight American cemeteries in Europe.

Carrara marble headstones have been placed on most graves of American World War dead who lie in Suresnes Cemetery near Paris. Five other cemeteries in France, one in Belgium, and one in England have either received Carrara crosses or will receive them.

Civilizations stretching back to the centuries before the birth of Christ have used this marble. Carrara marble served to honor pagan gods before the Christian Deity. As the deeds of American legions will be "written" in Carrara, so were the deeds of Rome's legions.

Geographical Description 2,000 Years Old and Still Good

It is rare that a geographical description can be used 2,000 years after it was written, but here is one of Carrara that stands the test:

"Of these Luna is a city and harbor; it is named by the Greeks the harbor and city of Selene (modern Marina di Carrara, port of Carrara). The city is not large, but the harbor is very fine and spacious, containing in itself numerous harbors, all of them deep near the shore; it is, in fact, an arsenal worthy of a nation holding dominion for a long time over so vast a sea. The harbor is surrounded by lofty mountains from whence you may view the sea and Sardinia and a great part of the coast on either side. Here are quarries of marble, both white and marked with green, so numerous and large as to furnish tablets and columns of one block; and most of the material for the fine works, both in Rome and other cities, is furnished from hence. The transport of the marble is easy, as the quarries lie near the sea."

That was written by Strabo, Greek historian, a few years before the birth of Christ.

Ships call at that same harbor to bring away the white marble crosses for the American graves in France. The marble comes down from the lavender-tinted Carrara Mountains, scalloped against a blue Italian sky, via the leveled course of the Strada Ferrata. It was cut out of quarries (there are more than 600 in the district) that probably served the Romans and the Medici and the Venetians before America was discovered. Indeed, the method of cutting marble in the quarries is supposed to have originated with Leonardo da Vinci.

Where the Sound of Chip, Chip, Chip Is Ever in the Air

Little needs to be added to Strabo's description. The visitor first sees the great mounds of marble chips as dustlike whitewash smears on the sides of the steep ravines. The three ravines holding most of the quarries are tributary to Carrara, a city of 25,000 quarrymen, quarrymen's wives and children, and crippled quarrymen. Carrara is dusty with dust of precious marble. It hums to the tune of 75 marble cutting factories. The sound of chip, chip, chip is ever in the air. In Carrara even the poorest houses have chaste white marble lintels and steps. The marble railway takes passengers free up the ravines where great white gashes

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to New Jersey, Wisconsin and Missouri mines for zinc; to Missouri again and Idaho for white lead; to Minnesota and North Dakota flax fields for linseed oil; to Pennsylvania coke ovens for coal tar dyes; to Florida sands for titanium white. We turn to Georgia pine forests for turpentine and rosin; to Chesapeake Bay for menhaden fish oil; to Texas for cotton cellulose; to Illinois and Indiana for corn alcohol; to Lake Superior and Pennsylvania mines for red pigment; to Tennessee, Kentucky and Missouri for barytes.

Louisiana and West Virginia natural gas wells provide carbon black pigment; Pennsylvania and Georgia yield yellow ocher pigment; Pennsylvania furnishes sienna and brown pigments. The waste piles of steel galvanizing industries supply Prussian blue. Farms of many localities yield soy bean oil.

Yet the paint industry, and particularly that part of it devoted to varnish, reaches out to the ends of the earth for certain ingredients. It pays the premium of running boats down the Yangtze gorges' death traps to get water-proofing tung oil. It hires Maori natives of New Zealand to wade in swamps feeling with their toes for lumps of fossil Kauri gum exuded by trees long dead. It markets for other fossil gums or "copals" with Sierra Leone, Madagascar, Zanzibar, Benguela, Manila, Accra on the Gold Coast, the Congo and even with head-hunters of New Caledonia. It buys perilla oil of Japan, soy bean oil of Manchuria, and lumbang or candle nut oil from the Philippines. America paid eleven million dollars to India one recent year for 31,300,000 pounds of shellac.

What the Chemist Has and Hasn't Done

Great is the chemist. Yet a few materials and methods in the changing paint industry resist him. White lead, a basic paint material, still is made largely by a process recorded in Greek annals of 300 B. C.

And not in any test tube has the chemist been able to duplicate what a Georgia pine does when it makes turpentine in its tree trunk. He has tamed many oils, but the paint industry has resolved to encourage the growth of tung nut trees in Florida because a varnish oil with tung's virtues has not been developed in the laboratory.

Three new victories the chemist has to his credit. Rosin from southern forests he esterizes to permit its use in place of the expensive imported fossil resin. Secondly, he has produced shellac artificially, and this accomplishment may obliterate the lac gathering industry of India just as the creation of chemical blue reduced indigo farms in India and the United States. And lastly he has extracted from the corn cobs, that have given their grains to make paint, furfural, to remove that paint!

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The Nine Capitals of the United States

ACTION to condemn the "Old Brick Capitol" to make way for the new Supreme Court Building has been instituted in Washington, D. C. Congress occupied the "Old Brick Capitol" from 1814 to 1819 while workmen were repairing the Capitol building which was damaged by invading British troops.

The probable demolition of the "Old Brick Capitol" serves to recall that few of the other eight American cities which have been capitals of the United States have preserved their capitol buildings. Notable exceptions are Philadelphia's Independence Hall and the State House of Annapolis.

New York, Philadelphia, Lancaster and York in Pennsylvania, Trenton and Princeton in New Jersey, and Baltimore and Annapolis in Maryland are the other eight capitals of the United States. York last fall celebrated the 150th year of its nine-month career as capital.

During its first twenty-five years Congress moved as frequently as a New York apartment dweller. Indeed, when it was endeavoring to select a "permanent seat," Congress came near achieving perpetual motion by voting for alternate meetings at two capitals, one on the banks of the Potomac and one on the banks of the Delaware.

Lancaster Was Capital for Just One Day

Lancaster, Pa., was capital of the United States for just one day, September 27, 1777. After a single meeting in Lancaster the congressmen decided it would be safer to put the Susquehanna River between them and Lord Howe's Redcoats, so they adjourned to York. Once previously the Continental Congress had fled from Philadelphia. While Washington was crossing the Delaware the year before, the legislature moved to Baltimore for two months.

Evacuation of Philadelphia by the British in 1778 permitted Congress to make the metropolis of the colonies again the capital. So it remained until an incident five years later led angry Congress to demand an independent federal district. Although the war was over, the legislature found itself short of money to pay soldiers and dismiss them. Eighty men in the Lancaster barracks mutinied and marched on Philadelphia, where they were cordially received by brothers-in-arms. They menaced Independence Hall, where Congress, in session, appealed vainly to the Pennsylvania State government for protection. Indignant at the insult, Congress adjourned to Princeton, New Jersey, and resolved that when it established a national capital it would be independent of any state or city protection.

Washington Resigned His Command at Annapolis

Nassau Hall and Princeton living accommodations cramped Congress, so it adjourned to meet the following year at Annapolis. In the graceful-spired Maryland State House,* Washington resigned his commission, while the dignified lawmakers received him with their hats on. General Washington completed his brief address, bowed, and the legislators lifted their hats but bended not an inch!

Next year Congress met in Trenton two months before proceeding to New

*See, in your library copy of the National Geographic Magazine for February, 1927, "A Maryland Pilgrimage: Visits to Hallowed Shrines Recall the major role played by this Prosperous State in the Development of Popular Government in America," by Gilbert Grosvenor, LL.D., Litt.D.

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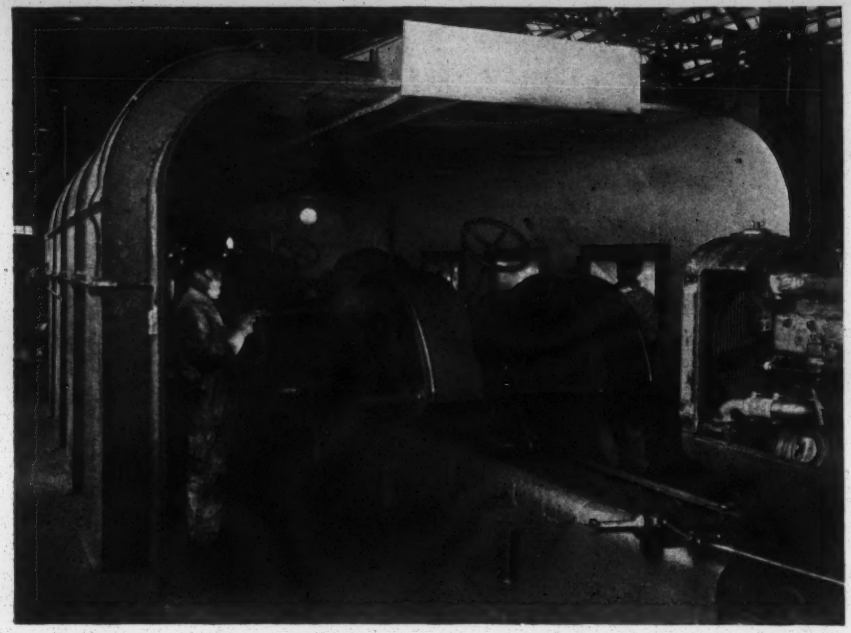
memorialize marble even as marble statues later memorialize men. Somewhere a whistle blows. A pause. Then a dull explosion.

Great blocks swing out by booms to waiting wooden skids for a ride down the railroad, and down to the sea.

Carrara came near being the site of an enormous carving similar in concept to the Stone Mountain Memorial in Georgia which will carry the figures of Lee, Jackson, and other Southern leaders, and the figures planned for Rushmore Mountains in the Black Hills. The sculptor who planned a gigantic statue overlooking the sea, to be carved out of the Carrara marble mountain, was Michelangelo. He may have had his inspiration from the plan of Dinocrates to fashion Mt. Athos into a gigantic figure of Alexander looking out over the Aegean Sea. Neither plan was carried out.

Michelangelo's "David," at Florence, as well as his "Moses" and his "Day and Night, Evening and Dawn," are all of Carrara marble selected "on location," as it were. Canova's statue of Napoleon I was carved out of a block of flawless Carrara as large as the body of the largest type of modern motor furniture van.

Bulletin No. 4, January 30, 1928.



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A HOSE SUPERSEDES THE PAINT BRUSH

The machine in the paint cabinet of a large automobile factory is a tractor but the same operation is used for automobiles. Masked men spray on lacquer, covering the surfaces in a very short time. The new cellulose lacquers are replacing dark paints, so common on cars of a few years ago, with brilliant colors (see Bulletin No. 3).

York. Washington was inaugurated first President of the United States on Wall Street where stands the present Subtreasury of the United States.

The District of Columbia owes its selection as capital to the insistence that the permanent government seat should be in the geographic center of the Union! The capital, is was argued, should lie neither north of the Delaware River nor south of the Potomac, on tide water, but far enough inland to be safe from attack.

Vigorous bidding for the capital of the United States foreshadowed present "booster" methods. Kingston, New York, was first in the field with an invitation. Annapolis urged its central location. Historic Williamsburg, Virginia, petitioned.

When Congress once actually voted to create capitals on the Potomac near Georgetown and on the Delaware near Trenton, it proposed to meet in Annapolis and Trenton alternately until the "residences" were prepared. Trenton, Germantown, Carlisle, Lancaster, York and Reading sent prospectuses.

A Long Ride for Aged General Washington

In 1789 the Senate and House voted finally to establish the capital at Germantown, Pennsylvania. This bill failed only because of a minor amendment offered by Madison, which required postponement of the measure until next session.

The compromise, by which the South voted for Hamilton's debt funding bill in exchange for a capital on the Potomac, resulted in Congress instructing President Washington to select a site between the Eastern Branch and Conococheague Creek. The Eastern Branch enters the Potomac where Washington, D. C., now stands, but the Conococheague joins it 75 miles north and west. Near "that Indian place," as Congress called it, the Potomac River bends within two miles of the Pennsylvania border. A federal city in this region could have touched three States—Virginia, Maryland and Pennsylvania—so this possibility was included for political reasons. Washington journeyed up the Potomac, raising false hopes along the way, before he announced his choice, the present District of Columbia.

Bulletin, No. 5, January 30, 1928.

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HAULING MARBLE FROM CARRARA'S QUARRIES

The Italian driver sits on the ox-yoke, riding backward, to get a more convenient crack at the lazy oxen. From this fine marble, everything, from vases and Venuses to tubs and monuments, will be made (see Bulletin No. 4).